

subject to damage by freezing weather. Severe freezes are not, however, of yearly occurrence in the districts named, but occur, on an average, about once in five years.

Heavy snowfalls in December are of rare occurrence in the United States.

PROF. M. H. YERBY.

By F. P. CHAFFEE, Section Director.

It is with deep regret that I announce the loss of a valuable cooperator in the work of the Weather Bureau by the death of Prof. M. H. Yerby, voluntary observer at Greensboro, Ala., on November 10, 1900, in the seventy-third year of his age.

Professor Yerby was born in Tuscaloosa County, Ala., June 19, 1828. His early life was spent on his father's farm. He graduated from the University of Alabama, and soon afterward adopted teaching as a profession, which he followed about forty-five years. In 1858 he moved to Greensboro, where he resided continuously during the remainder of his life. He was the voluntary observer at that place from January, 1888, up to the time that he was taken down with the brief illness which ended his life. There is not a single break in his very accurate meteorological record during nearly thirty years of work as a voluntary observer. His work will be of great value to the Bureau in determining the average climatic conditions of the locality in which he resided, and his fidelity to this work, which he assumed voluntarily and performed gratuitously, is indeed worthy of emulation.

Mr. W. E. W. Yerby, son of Professor Yerby, has kindly consented to continue the good work of his father in keeping up the voluntary record at Greensboro.

RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined list of titles has been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau:

- Naturwissenschaftliche Rundschau. Braunschweig. 15 Jahrg.*
Angstrom, Knut. Intensität der Sonnenstrahlung in verschiedenen Höhen, nach Untersuchungen auf Tenerifa 1895 und 1896. P. 649.
Geographische Zeitschrift. Leipzig. 6 Jahrg.
Koepen, W. Versuche einer Klassifikation der Klima, vorzugsweise nach ihren Beziehungen zur Pflanzenwelt. (Schluss.) P. 657.
Gaea. Leipzig. 37 Jahrg.
Klein, [H. J.] Die Erforschung der hohen Schichten der Atmosphäre und ihre Bedeutung. P. 11.
Weiler, W. Ueber Blitzableiter. P. 23.
Memoria della Soc. deg. Spettroscopisti Ital. Catania. Vol. 29.
Tacchini, P. ed Rizzo, A. Eclisse totale di sole del 28 Maggio. 1900. P. 111.
Philosophical Magazine. London. Vol. 1. 6th Series.
Barton, E. H. Refraction of Sound by Wind. P. 159.
Rayleigh, Lord. Spectroscopic Notes concerning the Gases of the Atmosphere. P. 100.
Archives des Sciences Physiques et Naturelles. Genève. Quatrième Période. Tome 10.
Tommasina, Thomas. Sur l'étude des orages lointains par l'électroradiophone. P. 513.
Jacquet. Nouvelles recherches sur l'action physiologique du climat d'altitude. P. 580.
Gautier, R. Résumé météorologique de l'année 1899 pour Genève et le grand Saint Bernard. V. Pluie et neige. P. 539.
Sarasin, Ed. Oscillations du lac des Quatre-Cantons. P. 600.
La Nature. Paris. 29me année.
Grafigny, H. de. La navigation aérienne en 1900. P. 103.

Meteorologische Zeitschrift. Wien. Heft 11.

- Bjerknes, V.** Räumlicher Gradient und Cirkulation. P. 481.
Wolny, E. Ueber den Einfluss der Pflanzendecken auf die Wasserführung der Flüsse. P. 491.
Müller, W. Ueber die Beobachtung von Irrlichtern. P. 505.
Polis, P. Das meteorologische Observatorium Aachen. P. 515.
 — Der Meteorologen-Kongress in Paris. P. 516.
H[ann], J. Die meteorologischen und erdmagnetischen Ergebnisse der antarktischen Expedition des Jahres 1899-1900. P. 519.
Arctowski, Henrik. Notiz über die während der Ueberwinterung der belgischen antarktischen Expedition beobachteten Südlichter. P. 522.
 — Zahl der Frosttage in Greenwich. P. 522.
Erzherzog Ferdinand IV. Meteorfall? P. 523.
Danckelman, v. Regenfall in Neu-Guinea. P. 523.
Rotch, L. Ballon und Drache. P. 524.
Henry, A. J. Tod durch Blitzschlag im Jahre 1899.
Scottish Geographical Magazine. Edinburgh. Vol. 17..
Cornish, Vaughan. Formation of Wave Surfaces in Sand. P. 1.
Ciel et Terre. Bruxelles. 21me année.
Arctowski, H. Aurore australe mouvementée. P. 501.
Marchand, E. et Fabre, L. A. L'action de la rotation terrestre sur l'orientation des cours d'eau. P. 506.
Comptes Rendus de l'Académie des Sciences. Paris. Tome 131.
Chauveau, A. B. Sur la variation diurne de l'électricité atmosphérique. P. 1298.
Science. New York. N. S. Vol. 13.
[Thurston], R. H. Frictional Effect of Railway Trains on the Air. P. 115.
Nature. London. Vol. 63.
Wood, R. W. Artificial Representation of a Total Solar Eclipse. P. 250.

RECORDS BY THE KITE CORPS AT BAYONNE, N. J.

Communicated by Dr. W. H. MITCHELL, Secretary to the Corps.

Herewith we present our fourth semiannual tabulated record of temperatures obtained from thermometers carried up by the kites of our corps. These thermometer records are obtained at every ascension, no matter what other experiment we may have in view.

We now have the use of a building, 15 by 25 feet, in which we have established a station, and daily records are taken. We have quite a physical laboratory to assist us in our work.

All our field outfit is mounted, so that when at work we are so mobile that we frequently move our base several hundred feet, while our kites may be 2,000 feet high, to avoid the obstructions of buildings, trees, and telegraph lines occasioned by a change in wind direction after we have made an ascension.

Besides our meteorological records, the most interesting and attractive experiment of the past six months was made during ascension No. 136, when six pairs of carrier pigeons were released from a trap under the carrier. * * * These birds took instantaneous flight from an altitude of 800 feet for their home cote, holding the altitude at which released.

We have to obtain our essentials and apparatus slowly, being hampered by a lack of funds, but hope eventually to have a steam reel in service, when we will push for higher altitudes. At present we can not subject ourselves to the strain and labor of winding in the long lines that would be necessary to attain even 10,000 feet.

We invite correspondence with foreign stations on kite work, and will reciprocate favors and exchange results.

The reader will notice that the maximum and minimum temperatures attributed to certain ascensions (e. g., February 21, March 21, 24, 31, etc., as marked with a ||) appear to be reversed in the columns as published. These are printed exactly as given in Mr. Mitchell's manuscript. As it appeared likely that these were cases in which the temperature at the reel or ground was lower than the temperature at the kite, the Editor inquired of Mr. Mitchell and received the following reply:

You are right in your surmise that the column of maximum temperatures is the temperature at the ground before the thermometer starts aloft; hence the fact that we placed the high reading in minimum column.

We have often found on coming down that both indices have moved on our Six's, showing that there were warmer currents of air aloft. Thus, e. g., we leave the earth with an earth temperature of 60°; go up,

say, 1,200 feet; our reading on taking down might be, maximum 65°, minimum 52°; the duration of flight, say, from 8:25 to 9:15 p. m.; earth temperature at ending, say, 39°.

We may enter the warm current of air at an altitude of 500 feet and enter a colder one at 600 or 800, or we may get our minimum record up as far as 600 feet and stop in the warmer current at our highest altitude (1,200).

Thermometer ascensions made at Bergen Point, Bayonne, N. J., by Bayonne kite corps.

Number.	Ascension.				Kite record.				Local conditions.						New York.				Average daily record furnished by the observer at Bergen Point, Bayonne, N. J.		
	Date.	P. M.		Altitude.	Temperature.		Temperature.		Barometer.	Hygroscope.	Wind.	Sky.		Temperature.		Wind at beginning of ascension.		Same day.	Second day.	Third day.	
		Began.	Ended.		Max.	Min.	Begin-ning.	End-ing.				Character	Remarks.	Begin-ning.	End-ing.	Direc-tion.	Veloc-ity.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		H.	M.	Feet.	°	°	°	°	In.	%				°	°		Miles.	°	°	°	
122	Jan. 3, 1900...	8 30	9 45	755	22	18	.....	.....	20 30.40	73	nw.	Clear.	.....	22	22	nw.	11	24.5	25.5	40
123	Jan. 6, 1900...	8 45	10 00	542	36	30	.....	.....	33 30.50	70	sw.	P. cloudy.	Cumulus.	37	36	nw.	12	41	37	40.5
124	Jan. 8, 1900...	8 55	10 30	2,350	27	10	.....	.....	18 30.45	68	nw.	Clear.	Moonlight.	26	23	nw.	13	40.5	23.5	35.5
125	Jan. 9, 1900...	8 25	9 50	1,854	28	19	.....	.....	24 30.41	70	nw.	Clear.	Lunar halo, 6:30.	32	32	s.	12	23.5	35.5	30.5
126	Jan. 13, 1900...	8 32	10 15	1,950	33	27	.....	.....	30 30.15	72	.....	P. cloudy.	L. halo, 8; l. corona, 11.	33	32	sw.	4	31	33.5	37.5
127	Jan. 17, 1900...	8 20	9 50	850	35	31	.....	.....	33 30.60	83	se.	Cloudy.	Cumulus.	35	34	e.	16	37	37	44
128	Jan. 19, 1900...	9 00	10 15	.....	48	46	.....	.....	47 30.03	100	ne.	Cloudy.	Dense fog.	51	50	e.	9	44	50	34
129	Jan. 20, 1900...	8 25	9 35	1,100	53	48	.....	.....	50 29.85	98	sw.	Cloudy.	.....	54	52	sw.	14	50	34	40.5
130	Jan. 27, 1900...	8 35	10 00	1,480	25	30	.....	.....	27 30.80	79	nw.	Clear.	.....	26	26	w.	4	22.5	32	23.5
131	Feb. 6, 1900...	8 30	10 12	1,640	39	33	.....	.....	36 30.15	72	sw.	Clear.	.....	41	40	nw.	12	35	35	40
132	Feb. 10, 1900...	8 15	9 30	970	33	28	.....	.....	31 30.80	93	ne.	Cloudy.	Lunar halo.	34	34	nw.	6	33	38	39
133	Feb. 12, 1900...	2 50	4 00	950	40	36	.....	.....	39 30.22	100	e. by se.	Cloudy.	Mist.	41	41	ne.	12	39	50.5	35
134	Feb. 17, 1900...	9 15	9 25	600	22	15	.....	.....	18 29.77	96	ne.	Cloudy.	Snow.	24	23	n.	14	25.5	23	21
135	Feb. 21, 1900...	8 45	10 30	1,150	38	42	.....	.....	38 30.10	97	se.	Cloudy.	.....	39	38	ne.	16	31	52.5	38.5
136	Feb. 22, 1900...	2 15	4 25	1,500	62	54	.....	.....	60 29.30	90	sw.	P. cloudy.	3 pair U. S. Navy pigeons released.	50	49	nw.	10	52.5	38.5	41
137	Feb. 24, 1900...	8 12	9 30	1,212*	47	38	.....	.....	45 29.40	100	se.	Cloudy.	Rain, 8:45.	46	45	se.	13	41	13	17.5
138	Feb. 27, 1900...	8 25	10 30	2,309	30	15	.....	.....	18 30.75	70	nw.	Clear.	.....	17	18	nw.	9	13.5	26.5	47.5
139	Mar. 7, 1900...	8 15	10 15	1,840	34	28	.....	.....	31 30.45	60	nw.	Clear.	.....	39	37	nw.	14	40.5	32.5	38.5
a	.....	8 40	9 00	1,000	.....	32	.....	.....	32	.....	.....	.....	Car ascension.	38	38	nw.	14	.....	.....	.....
b	.....	9 12	9 30	1,000	.....	30	.....	.....	31	.....	.....	.....	.....	38	37	nw.	26	.....	.....	.....
c	.....	9 35	10 00	1,000	.....	30	.....	.....	31	.....	.....	.....	.....	37	37	nw.	24	.....	.....	.....
140	Mar. 10, 1900...	9 42	9 55	200	38	36	.....	.....	38 29.85	83	n. by w.	P. cloudy.	Cirrus upper, ne.	37	36	nw.	20	43.5	28.5	24
141	Mar. 17, 1900...	8 30	10 35	1,908	18	12	.....	.....	16 30.20	70	nw.	Clear.	.....	16	14	ne.	82	23	23	40.5
142	Mar. 21, 1900...	8 23	10 05	1,650	30	36	.....	.....	30 30.20	63	w.	Clear.	.....	32	31	nw.	12	32.5	37	44.5
143	Mar. 24, 1900...	8 45	9 50	1,980	34	37	.....	.....	35 30.10	73	nw.	Clear.	.....	33	31	nw.	14	31.5	36	37
144	Mar. 31, 1900...	8 33	10 25	850	37	39	.....	.....	37 29.90	70	nw.	Clear.	.....	38	35	nw.	42	40	45	49.5
145	Apr. 3, 1900...	8 45	10 00	870	44	47	.....	.....	45 29.85	83	sw.	Clear.	Moonlight.	45	43	nw.	22	45.5	43.5	44
146	Apr. 7, 1900...	9 16	9 55	680	48	46	.....	.....	47 30.70	75	nw.	Clear.	Meteors.	53	50	nw.	24	52.5	50	40
147	Apr. 11, 1900...	8 20	9 40	890	40	38	.....	.....	39 30.30	97	ne.	P. cloudy.	Hail and rain, 10:36.	42	42	se.	12	42	43.5	45
148	Apr. 13, 1900...	8 35	10 05	1,180	39	32	.....	.....	37 29.90	90	nw.	Cloudy.	.....	43	41	nw.	11	45	46	51.5
149	Apr. 14, 1900...	9 05	9 48	1,009	40	42	.....	.....	40 30.15	80	w. by s.	Clear.	Moonlight.	45	45	nw.	20	46	51.5	53
150	Apr. 18, 1900...	8 35	10 12	963	59	64	.....	.....	60 30.10	98	sw.	Cloudy.	.....	54	55	s.	25	58	66	60.5
151	May 2, 1900...	8 40	10 30	1,780	50	48	.....	.....	48 29.85	90	ne.	P. cloudy.	Cumulus.	59	57	e.	12	57	66	54
152	May 4, 1900...	8 45	10 40	1,155	49	40	.....	.....	38 29.80	95	sw.	Cloudy.	.....	52	49	sw.	10	54	51	55.5
153	May 10, 1900...	8 50	10 05	1,578	48	44	.....	.....	46 30.10	70	nw.	Clear.	Moonlight, meteors.	49	48	n.	12	40	48	61
154	May 12, 1900...	8 41	9 50	780	58	50	.....	.....	56 30.10	78	sw.	P. cloudy.	.....	57	57	s.	18	61	70	76
155	May 15, 1900...	8 30	10 15	970	73	75	.....	.....	78 29.94	78	w.	Cloudy.	.....	82	74	nw.	22	79.5	70	59
156	May 18, 1900...	8 45	9 55	850*	65	60	.....	.....	64 29.75	100	s.	Rain.	.....	67	65	s.	10	66	56.5	62
157	May 25, 1900...	7 45	2 00†	1,875	58	46	.....	.....	52 30.25	80	ne.	P. cloudy.	.....	61	51	ne.	11	59	57	64.5
a	.....	8 02	8 30	1,000	.....	56	.....	.....	56	.....	.....	.....	Car used.	60	59	ne.	22	.....	.....	.....
b	.....	8 40	9 30	1,000	.....	54	.....	.....	54	.....	.....	.....	.....	59	58	ne.	18	.....	.....	.....
c	.....	9 37	10 30	1,000	.....	53	.....	.....	54	.....	.....	.....	.....	58	57	ne.	28	.....	.....	.....
d	.....	10 42	11 30	1,000	.....	53	.....	.....	58	.....	.....	.....	.....	57	56	ne.	30	.....	.....	.....
e	May 25-26, 1900†	11 35	12 30†	1,000	.....	52	.....	.....	52	.....	.....	.....	.....	56	54	ne.	30	.....	.....	.....
f	May 26, 1900†	12 37†	1 30†	1,000	.....	48	.....	.....	52	.....	.....	.....	.....	53	52	ne.	22	.....	.....	.....
158	May 26, 1900...	9 15	10 30	853	50	53	.....	.....	53 30.10	98	e.	Cloudy.	Cumulus.	53	58	n.	9	57	64.5	56.5
159	May 29, 1900...	8 45	10 40	880	49	53	.....	.....	51 30.35	70	w.	Clear.	.....	54	53	s.	9	55.5	61	73
160	May 30, 1900...	8 16	5 20	960	76	72	.....	.....	75 29.95	65	sw.	Clear.	Northeast aloft.	70	71	se.	10	61	75	74.5
161	June 2, 1900...	8 30	10 40	1,203	66	64	.....	.....	65 29.90	96	sw.	Cloudy.	North-northwest aloft.	69	68	sw.	16	74.5	74.5	64.2
162	June 5, 1900...	4 30*	5 45*	1,985*	50	48	.....	.....	51 30.18	68	nw.	Clear.	.....	57	56	nw.	5	64	73	64.5
163	June 12, 1900...	8 15	9 45	1,349	69	63	.....	.....	67 30.15	93	se.	Cloudy.	Upper northeast.	76	70	se.	12	76.5	67.5	77.5
164	June 16, 1900...	9 35	10 30	1,158	65	58	.....	.....	63 30.07	90	sw.	Cloudy.	.....	68	65	w.	6	68	60	64
165	June 23, 1900...	8 50	9 26	800*	72	66	.....	.....	69 30.00	68	sw.	P. cloudy.	Moonlight.	63	63	s.	9	71.5	70.5	82.5
166	June 29, 1900...	8 30	9 00	250*	76	72	.....	.....	75 29.70	97	sw.	P. cloudy.	Hazy.	83	83	sw.	22	76	70	69.5
167	June 30, 1900...	6 10	7 00	600*	75	70	.....	.....	73	.....	nw.	Clear.	At Midland Beach, S. I.	74	72	nw.	25	70	69.5	70.5

* Ascensions marked thus * cord was used; piano wire used at all others. † Second thermometer under transit car taken down for reading hourly. ‡ A. M. of the 26th. § Mr. Willard W. Hotchkiss. ¶ Cases where the minimum temperature occurs near the ground. ¶ Approximate, 0.35 of a mile of wire out as furnished by cyclometer on reel. * This ascension began at 4:30 a. m. of the 5th.

NOTES BY THE EDITOR.

WEATHER FORECASTS IN MEXICO.

By a recent arrangement between the Director of Federal Telegraphs in Mexico, Señor Camilo A. Gonzales, and the Chief of the United States Weather Bureau, the latter has authorized Dr. I. M. Cline, Forecast Official at Galveston, Tex., to telegraph daily the location of the centers of the highest and lowest pressures in the neighborhood of the Rocky Mountain region in addition to the reports from stations received in accordance with previous agreements. This extension of the international work went into effect December 12,

and Señor Gonzales writes that he is thus able to foresee the occurrence of northers on the Gulf one or two days in advance.

It may be of some historical interest to add that in the autumn of 1871 the Editor was able to point out the fact that the origin and character of the northers of Texas and the Gulf, about which much had been written by American students, had been made plain by the study of the United States Daily Weather Map; that, in fact, they represented simply the southward underflow of a thin layer of cold air which started as a cold wave or blizzard on our northern frontier;